## We claim:

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1	1.	A method	for transmitting	DSI an	d NDSI	over a	communication	link	of a
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- 2 communication network, the method comprising the steps of:
  - transmitting fragmented NDSI in accordance with a network protocol where the fragmenting is based on parameters of received DSI and is performed in
- 5 accordance with a network layer protocol.
  - 2. The method of claim 1 wherein the step of transmitting NDSI comprises:
- 2 calculating a fragmentation requirement for each received initial DSI;
  - reviewing the fragmentation requirements of the received DSI after a new
- 4 DSI requirement was calculated or after transmission of a DSI was
- terminated to determine a fragmentation requirement that is most
- 6 restrictive; and
  - altering the fragmenting of NDSI to comply with the most
- 8 restrictive fragmentation requirement.
- 3. The method of claim 1 further comprising the step of transmitting DSI in accordance
- with required timing relationships and transmitting NDSI in a non-fragmented manner
- when there are no DSI to be transmitted.
- 4. The method of claim 1 where the network protocol is an OSI-based layer 3 protocol.
- 5. The method of claim 1 where the fragmenting is further based on information rate of
- 2 the communication link.
- 6. The method of claim 1 where the parameters of the received DSI comprise such
- 2 variables as information compression, sample rate of DSI, number of communication

- 3 channels included in the DSI, amount of overhead information included in the DSI and
- 4 amount of subscriber information in the DSI.
- 7. An apparatus for transmitting DSI and NDSI over a communication link of a
- 2 communication network where the apparatus fragments the NDSI in accordance with a
- 3 network layer protocol and based on parameters of received DSI.
- 8. The apparatus of claim 7 configured as an IAD coupled to subscriber equipment and
- 2 to an access network.
- 9. The apparatus of claim 7 configured as host equipment network where such host
- equipment is coupled to a packet based communication network and to an access
- 3 network.